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ABSTRACT

This report compares three approaches to descriptive research, focusing on the kinds of descriptions developed and on the methods used to develop the descriptions. The main emphasis in all three approaches is on verbal data. In these approaches the importance of interpretation and its intuitive nature are emphasized. The three approaches, however, represent some differences. In the comparison, the kinds of descriptions developed and methods used are considered as parts of the broader context of each approach. The differences in descriptions and methods are seen as reflecting differences between the approaches in the general aim or commitment of the research, the delimitation of the field of research, and the designs and kinds of data collection used. The three approaches also represent three different orientations in the search for a methodological basis and for support in answering questions about methods. The most significant differences between the three approaches are arrived at by characterizing what is essential to each approach and what then is essentially different between the approaches. (Author/PN)

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THREE APPROACHES TO DESCRIPTIVE RESEARCH

Paper presented at the Symposium on Qualitative Research in Psychology, Perugia, Italy, August 8-12, 1983.

Lennart Svensson

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ABSTRACT

In the comparison of three approaches to descriptive research presented in this report, the focus is on the kinds of description developed and the kinds of method by use of which the descriptions are developed. The three approaches have some important characteristics in common, which narrow or concentrate the comparison to a certain variation of methods within descriptive research. The main emphasis in all three approaches is on verbal data. Also, in all three approaches the importance of interpretation and its intuitive nature is emphasized. The three approaches, however, represent some differences as compared to this similarity.

In the comparison the kinds of descriptions developed and methods used are considered as parts of the broader context of each approach. The differences in descriptions and methods are seen as reflecting differences between the approaches in the general aim or commitment of the research, the delimitation of the field of research and the designs and kinds of data collection used. The three approaches also represent three different orientations or "turns" in the search for a basis for and for support in answering questions about methods. The three turns are labelled "the scientific turn" (S), "the philosophical turn (P), and "the linguistic turn (L).

The most significant differences between the three approaches found, are arrived at by characterizing what is essential to each approach and what then is essentially different between the approaches. The descriptions differ in that they concern the content of the whole-characteristics of the phenomena (S), the structure of the phenomena (P), and the general meaning of parts of the phenomena (L). The methods differ in that they are interpretative-analytic (S), interpretative-transformational (P) and interpretative-aggregative (L).

FOREWORD

It is a difficult task to compare different research methods, because they form parts of more extensive contexts of theoretical and empirical work, which must be considered to do justice to the meaning of the specific methods. In the comparison of three approaches to descriptive research presented in this report I have tried to consider the broader contexts involved. One of the problems which still remains and can not be solved within the scope of the report is the limitations of the examples chosen to illustrate the methods. The aim of the comparison is to deal with rather specific differences in method and at the same time consider these differences in relation to the general differences between the approaches. However, the specifics of the approaches can not be covered, just exemplified, which means that the work within the three approaches is much more varied than will be described in this comparison.

Another restriction put on the presentation concerns arguments for and against the three approaches. Such arguments have been excluded. The presentation is deliberately restricted to only a description of the three approaches. May be it is natural that one has more arguments for ones own approach and against alternative approaches than vice versa. Anyhow, this is the case with the present author. However, these arguments are and will be presented in other contexts. I think it is important to just describe and point out differences between approaches within qualitative descriptive research to better define the field. The aim focussed on here has therefore been to give a description that would be acceptable to those who are doing the kind of research described.

I want to thank my collegues in Göteborg, Amedeo Giorgi in Pittsburgh and Joan Bliss and Jon Ogborn in London, for discussions about methodological problems at different points in time and for comments on a preliminary version of this report. I also want to thank the participants at the Symposium on Qualitative research in Psychology, Perugia, Italy,

August 8-12, 1983, for discussing the report in the form of a paper at the symposium. The present revised version includes a few changes compared to the paper. The changes are based on comments from Amedeo Giorgi pointing out that certain formulations used in comparing the phenomenological approach with the other approaches were not in accordance with the self-interpretation within the phenomenological approach. These formulations have been changed so that they should be in line with the self-interpretation suggested by Amedeo Giorgi.

Finally, I want to mention that Joan Bliss and Jon Ogborn together with Martin Monk recently have published a book describing their approach (Bliss, Monk and Ogborn, 1983), which was not available when I wrote the present report. The book does not give a different picture of the approach in the respects focussed on here compared to the earlier publications used by me. It gives, however, an extensive description of variations in the method and of different applications of the approach.

INTRODUCTION

Within the social and human sciences, communication with people participating in investigations is very often the form for collecting data. The treatment of such data involves interpretation. When meaning is not defined in advance but considered to have to be justified on an empirical basis, the research is descriptive in a fundamental sense. The aim of the research, then, is description of meaning. The descriptions are arrived at by interpretation and qualitative analysis. In relation to this research, some methodological questions may be raised. These concern how to collect the data, how to analyse the data and how to represent the data and the results at different stages of development of the descriptions. A meta-question concerns how to argue for the methods used. In this paper, three different approaches giving somewhat different answers to these questions will be compared.

The three approaches compared have some important characteristics in common, which narrows or concentrates the discussion to a certain variation of methods within descriptive research. In all three approaches, the importance of interpretation and its intuitive nature is emphasised. An algorithmic treatment of data is not accepted as a possible way to arrive at the kind of descriptions aimed at. The three approaches are compared because they represent some differences against the background of the similarity mentioned. The differences in methods reflect general differences in the ways of delimiting the field of research and the phenomena studied. An important factor is also the conception of the kind of knowledge aimed at. The field of research delimited and the conception of the results aimed at are manifested in the methodological approach. The specific differences in methods have to be understood in relation to the differences in the general methodologies. The general differences between the approaches are related to the fact that they represent different "turns" in the search for a basis for

and for support in answering questions about methods. The three "turns" will be labeled "the scientific turn" (S), "the philosophical turn" (P) and "the linguistic turn" (L).

S means a "turn" to the conceptions of the specific phenomena studied and the field of inquiry as the basis for the development and justification of methods. In this turn, answers to questions about methods are given relative to the phenomena studied. There is an emphasis on the specifics of the methods in relation to the specifics of the phenomena. General ontological and epistemological assumptions are considered as they are represented in the conceptions of the phenomena dealt with and the methodology concerns the implications for the treatment of data about the phenomena. The approach of the present author and his collegues at the Department of Education, University of Göteborg will represent this "turn". Because it represents the authors position, it will also in a sense represent the framework for the comparison.

P means a "turn" to philosophy to get the answers to the methodological questions. A philosophical position includes positions on ontological, epistemological and methodological issues. The "turn" means that these general positions are considered as assumptions in the empirical work. The assumptions give the frame for answering questions about methods. The development of methods means an exploration of the philosophical framework in relation to the field of inquiry. The approach at the Department of Phenomenological Psychology, Duquesne University, Pittsburgh will represent this "turn". Especially, the work of Amedeo Giorgi will be referred to.

L means a "turn" to language, i.e. to forms of representation, as a quide for the development of methods. This means an emphasis on the results and the formal characteristics of the descriptions aimed at and developed. However, the concern is usually not restricted to the end result of research but represents a general concern for representation also as a part of

the analyses. L is well represented within the philosophy of science. In the present case, it also represents a turn to the field of linguistics to obtain a framework or a starting point for developing methods. Work carried out by Joan Bliss and Jon Ogborn at the Center for Science Education, Chelsea College, University of London will represent this "turn".

It is not the aim of the present report to give an extensive account of the three different approaches or the work of the researchers referred to. The aim is the more restricted one of illuminating some aspects of the treatment of verbal data by comparing the approaches in some main respects. The aim is to present the different models for dealing with descriptive research. The comparisons will be developed successively starting from some general aspects of the "turns" and going to more specific characteristics of the analyses of data. In referring to the three approaches, the abreviations S, P and L will be used.

THE COMMITMENTS OF THE "TURNS"

The three "turns" represent somewhat different overall commitments, although the commitments said to characterise the "turns" are not exclusive. In S, the commitment is to the conception of the phenomena studied, based on earlier research (and common sense). Methods are selected, adjusted and developed on the basis of their compatibility with the conceived possible nature of the phenomena. The general assumptions about the phenomena are not taken for granted but temporarily accepted as a basis for judging the consistency between these assumptions and the methods used. The immediate aim is to transcend present knowledge about the specific character of the phenomena studied. Thus S emphasises descriptions of phenomena in terms of their specific nature.

In P, the commitment is to explore the philosophical frame in relation to a general field of inquiry under the assumption that this frame is fruitful. The field is that of psychological phenomena in general. The exploration is also dependent

upon knowledge of the field. The research is seen as a development of the implications and possibilities of the philosophy within the field. It is not a question of straightforward derivations but of creating correspondence between the philosophy and the empirical work on main points. The commitment is to integrate the philosophy and the empirical work on the basis of the philosophy. This also includes a development of the philosophy on the basis of the empirical work. The justification of the methods is that of having specified the general assumptions of the philosophy in the most appropriate and fruitful way.

In L, the commitment is to provide forms of representation of data. The aim is to systematise the descriptions of verbal data and to make the descriptions comparable. To fulfill this aim, general forms of representation are suggested. The "turn" as discussed here is not an absolute commitment to certain forms but a commitment to a general system of representation and to the task of finding general categories and combinations of categories that may, within the system, represent the results of exploring interpretative analyses of items of verbal data. The general system is seen as capable of representing within it a great variation as to the specific content of the categories developed. Thus, it is only the general forms of the categories and their relations that are thought to be general while the content of the categories is expected to be based on the analyses of the empirical data.

The three "turns" emphasise the conceptions of the phenomena studied (S), the philosophical assumptions behind the studies (P), and the forms of representing the research data and the results (L). What is emphasised is different aspects of the research and, on a general level, these are complementary. The three app-approaches to descriptive research, of course, each include all three aspects. The difference in emphasis on one or the other of the aspects is, however, related to differences in ways of dealing with all of them. These differences are not only dependent upon the general nature of the "turn" but also

depend on the more specific meaning of the "turn" in the three specific approaches compared.

FIELDS OF RESEARCH

The "turns" are important in the search for a basis for finding the specific methods to be used. This basis is a methodology in the broadest sense. The delimitation of the field of research and the phenomena to be investigated is apparently the first step in any empirical investigation and it is crucial for the whole design of an investigation. Phenomena always exist in a context and they may be delimited in different ways in relation to this context. The phenomena are constituted through the intentionality of the researcher in relation to the world. The three "turns" represent some differences in this respect.

In S phenomena similar in content are grouped together and investigated. The investigations are motivated on the basis of earlier research and practical interests. Thus the investigations concern phenomena similar in a rather specific sense or closely related in their existence in the world. In the present case, our own research, the phenomena concern peoples' conceptions or understanding of phenomena and messages, peoples' thinking and learning about different phenomena and themes and students' study activities and study results. In these investigations, the specific content conceptualised, thought about and/or learned is the basis for delimiting and grouping the cases. Thus, in S, the focus of the delimitation and grouping of phenomena is on the specific content and/or situation. The progressive delimitation, grouping and description of the specific phenomena is the aim of the research and it is carried out by the researcher on the basis of the data provided by the participants. The pheno-

mena described are units of activity, of thinking and doing, carried out by the participants.

In P, the delimitation of phenomena is based on the general philosophical-methodological approach. In the present case, the philosophy of phenomenology is "applied" to the field of psychology. The delimitation of phenomena is a part of developing a phenomenological psychology. The starting point is then taken in some main fields and kinds of phenomena in psychology, for instance perception and learning. It follows from the philosophy that these phenomena should be studied as experiences. Through the phenomenological approach, the true fundamental meaning of the experience, the essence, will be revealed. This essence is expected to be of a general kind and common to many specifically different phenomena.

In P, the starting point in the empirical work is taken in a wide range of phenomena such as very different experiences of learning. The concern is with what the participants have experienced as a real case of the kind of phenomena investigated. Descriptions and groupings of phenomena are based directly on the participants' descriptions, i.e. the data have the character of and are treated as reports on the phenomena studied. The aim of the research is to collect such reports and to find the essence of the individual phenomenon through these reports. Phenomena may then be grouped into fundamentally similar and different phenomena according to their described essences.

In L, the focus is not on individual phenomena per se, but on many phenomena together and extensive materials of verbal data. The concern is with forms of representing the data.
In our present case, the forms of representation are modelled after descriptions developed within linguistics. What is modelled is a system of forms representing a hierarchical structure and a network that might be illustrated by a tree diagram with nodes representing options. Superordinate categories or nodes are qualified as to their meaning by subordinated nodes,

options or categories. Categories on the same level in the system may be combined to represent a larger part of the data. Such combinations are considered to represent the phenomena and phenomena will finally be described and grouped according to these combinations. The concern thus is with the description and combination of specific verbal data within different fields of research.

DESIGN AND COLLECTION OF DATA

The general commitments and delimitations of fields of research are manifested in the designs of the investigations and the collections of data. Also, within this general frame, the investigations, in relation to which methods of analysis have been developed, are more restricted in character. In S, the design is usually based on a certain group of persons and their relation to a situation, a message, a phenomenon and/or problem. The investigations varies as to number of participants, occasions of data collection and kinds of data collected. Interviewing has been the dominant method of data collection. The interviews are rather unstructured but focussed on one or more themes. They are based on the introduction of the theme by the interviewer and the asking of a very open or general question in relation to the theme, followed by follow-up questions in relation to the participant's answers. How many themes and opening questions that are given in advance and how extensive the follow-up is on each theme varies considerably between investigations.

The interviews contain two kinds of verbal data. One is the participants' explication of their thinking about the content of the themes. This kind of data constitutes the basic data in the investigations. The other kind of data is complementary to the first kind and consists of the participants' reports on their own activity (thinking, reading, studying). In some investigations, only the first kind of data is collected. In other investigations, the two different kinds of data are collected and related for the same occasion and participant to give descriptions of understanding, studying and learning.

The analysis and relating of data in the individual case is also based on comparisons within the group participating in the investigation. Thus, the investigations include comparisons between individuals and between groups. The forming of the groups is a part of the analysis and a main result.

In line with the philosophical basis for P and the commitment to develop a phenomenological psychology, the concern is with the common nature of large groups of phenomena rather than with the specific content of some individual phenomena. The interest is in the foundations of psychology and the starting point is taken in some general concepts or groups of phenomena rather than in the specific instances. Particular interest has been devoted to learning because this concept has been seen as especially problematic. The concern then is for the general nature of learning. Fundamental to the design of the investigations is the aim to reveal the nature of learning by describing experiences of learning. Two quite different designs have been used in this case. One is represented by a study by Collaizzi (1973) and builds on an arrangement of a number of learning occasions. The emphasis is on covering different kinds of learning. The participants carry out the arranged tasks and the data collection concerns reports from the participants on different aspects of change that might have been experienced while carrying out the tasks. In this case, the data collection was carried out by the use of a questionnaire.

A quite different design was used by Giorgi (1978). He does not start from any arranged tasks or situations but asks the participants to select examples of learning from their past experience. This design involves more reliance on and use of the participants' experience and less concern for the covering of a general variation. What is common to the two kinds of design is that the concern is with learning in general. The second common characteristic is that the concern is with the participants' reports on their experience of learning as a change. Giorgi (1978) collects these reports in the form of interviews which have the form of the participant telling the story about once when he/she really experienced that he/she learned something.

The forms of representation focussed on i L are not meant to be bound to any specific designs or methods of data collection. However, they seem to have more to offer to investigations characterised by many participants and many different pieces of data. This kind of extensive data material is also the reason for the interest in the present case. Applications of L have been made to interviews with physics undergraduates (Bliss and Ogborn, 1977) and to teacher's questions (Ogborn, 1977). What makes the system of representation especially relevant is a fairly extensive data material in combination with a concern for description of specific parts of the material and combinations of such specific parts. The characteristic of extensiveness does not necessarily have to apply to the individual investigation. The investigation may be seen as a part in building up a more general system of representations together with other investigations.

KINDS OF DESCRIPTIONS DEVELOPED

In the preceeding sections, we have briefly described some general characteristics of the three approaches to descriptive research. In this and the following section, we will focus on the two aspects of the approaches that are our main concern in this report. The first aspect is the kind of description developed and the second is the kind of analysis through which the description is developed. The kinds of descriptions aimed at are seen as the most immediate basis for how the analyses of data are carried out. By giving an example for each approach in this and the next section we hope to be able to clarify some main characteristics of the approaches and some main differences between them.

Categories of description

In all three approaches, the aim is to describe the phenomena studied, but in somewhat different senses. In S, the aim is to both perserve the specific content of the phenomena in the description and to focus on some more fundamental characteristics. The characteristics searched for are those representing

whole-characteristics of the phenomena. The aim is to describe the phenomena in terms of their essential meaning. The aim is not to describe the organisation or structure of the phenomena per se but to describe the organised content. Still, the descriptions are given in a rather brief and general form, in the form of categories. These categories are considered to represent the content and form of the phenomena together and to summarise a more extensive specific content.

As an example of the kind of descriptions aimed at and developed, we shall refer to a study concerning a group of thirty university students' understanding of the message of a text (Marton, 1975; Svensson, 1976). The text was an article written in 1968 by Professor Urban Dahllöf. It was mainly a critique of the then approaching curriculum reform for the Swedish universities (UKAS). The reform aimed at bringing studies more in line with those at the polytechnic institutes through the introduction of set combinations of subjects and stricter regulations as regards duration of studies. The reason for the reform, as expressed by the authorities, was that the examination pass rate of the universities was considerably lower than the roughly 70% achieved at the polytechnic institutes which was considered acceptable.

The author of the article had, after examining the underlying statistics, divided the university students into subcategories and was thereby able to show that, even though the pass rate was very low in certain categories of students, in others it was as high, if not higher, than that achieved by technical students. The blanket approach of the university reform, which would affect all equally, was misguided the author felt. If the pass rate was to be raised (which was in fact not considered self-evident by the author), one must take selective measures, that is to say one must concentrate on just those groups that have a low pass rate.

The students were told beforehand that they would be asked to summarise the article and to answer questions about it immediately aftrer having read it. They decided themselves when they were finished with their reading and prepared to answer

questions about the article. They then were asked the following question: "Well now, perhaps you can tell me what you have been reading about?" The answers of the thirty students were described in terms of their expressed conceptions of the message of the article as a whole. This was done by grouping the answers in four fundamentally different ways of understanding the message and by describing these in the form of four categories of description. The categoires were the following.

Selective measures. Measures are to be taken for some students but not for others (only for those groups of students that do not fulfill the necessary requirements).

Differential measures. One has to consider differences between students in 1)taking measures in university education and 2) making investigations, about university education.

Measures. Something is wrong with university education and/or something must be done about it.

Differences. There are differences between groups of students in examination pass rates and there are differences in the study conditions related to the differences in pass rates.

The categorisation concerns what the main point of the article is as expressed by the students. The more precise and specific meaning of the categories have to be clarified in relation to the variation in the answers grouped in the categories. The categories express what is found to be common to the answers in each category and this also has to be understood against the background of the differences within each category. The categorisation is also based on what is found to be the main differences in conception of the main point of the message. This gives a relation between the categories which is empirically based. All the students express the knowledge represented by the last category "Differences". In "Measures" the students add a general statement about "measures", which is almost contrary to the point made by the author. Within the first two

categories, the students give a main point or conclusion. In the first category, this is the main point given by the author. The point made in the second category is clearly different. Instead of saying that measures should be taken for some and not for others, they imply that measures should be taken for everyone but that different measures should be taken for different groups. The formulations in category "Differential measures" are generally more vague than the ones in category "Selective measures".

The categorisation described concerns what may be called the main point of the message. Another kind of whole-characteristic concerns the organisation, not of the main point but of the whole message. In this respect, two categories were found and they also were found to be superordinate to the categories described above. One category was made up of the answers that were organised in terms of a conclusion-structure. This means that the differences in pass rates between different groups of students are made the basis for making the main point. The answers in the first two categories above belong to this conclusion-structure category. The answers grouped in the two remaining categories were not organised as arguments followed by a conclusion. Since a conclusion was lacking, the descriptions of differences in pass rates had the character of descriptions for their own sake followed by some suggestions as to explanations of the differences (this was also done in the conclusion-structure category). In the category "Measures", the general statements about something being wrong or that something had to be done were not related to the descriptions of differences in pass rates. This descriptive sequential organisation of the message was, in this context, called a no-conclusion-structure.

The two complementary categorisations briefly described above concern the conceptions of the message of the article. When describing conceptions, the focus is on a unit of content. By emphasising the content per se the description becomes static and represents the contentual aspect or result of thinking. In other cases, the descripitons concern the activity of thinking, reading or analysing or describing as a whole and the content

as a part of the activity. Also, as has been said earlier, there is a great variation in the kinds and extensiveness of the activities researched. However, also in these other cases, similar descriptions of conceptions are developed and the example presented here concerns a very central kind of description in our earlier work.

A part of the scrientific turn and the concern for the specific characteristics of the conceptions and the thinking is that the analyses and descriptions are also based on comparisons between instances to reveal significant similarities and differences. The categories described above may be said to each stand for themselves by accurately describing each case in the category. However, the significance of the descriptions is revealed through the similarities and differences described by the whole categorisation. Thus, the problem of significance is already dealt with in the development of the categories.

Description of essence or structure

In P, there is a strong emphasis on the descriptive nature of the knowledge aimed at in the sense that what is to be attained is descriptions of the essence of experienced phenomena and this delimits the field of research as described above. It is seen as important to avoid premature analytic or explanatory constructs in the descriptions of phenomena, i.e. phenomena are described as they present themselves as meanings for us without taking the further step of stating that they really are what they mean to us. (This is the meaning of the phenomenological reduction.) The knowledge aimed at is the essences of the phenomena and the uncovering of the intentionality of experience. The reduced naive descriptions are the necessary conditions for achieving this aim.

In P, the descriptions concern other peoples' experiences (in contrast to what is the case in philosophy). Thus the naive descriptions of others represent the researcher's data. These are reflected upon by the researcher in order to attain descriptions of essences and intentionality. The essences or struc-

tures are not the end of the analyses but are seen as means of bringing to light all of the actual living relationships of experience. The aim is thus to describe the nature of experience and the description of essence is a means to this end. The meaning of essence is not one but several. In philosophy, the main emphasis has been on essences as representing a universal level of analysis. In P, the interest is more in essences or structures that are context-dependent and relevant for typical situations rather than universal. The aim is thus to describe a typical essence which means that the reflection is stopped (or at least halted) short of complete universality. What is aimed at is a level of description that is neither universal nor particular but general.

We shall now give an example from Giorgi (1978) of the kind of descriptions aimed at and developed. The example concerns a report on an actual case of learning. The report was an answer to the following request: "Describe for me a situation in which you learned something". We shall first give the naive description of the subject and then the general description of structure which the analyses or reduction leads to.

Example I: Naive Description

In a health food store in downtown Pittsburgh a friend and I asked the clerk if she knew how to make yogurt. She said yes and proceeded to give us the recipe. This is what I thought she said: "To a half-gallon of milk, add 1/4 cup of plain Dannon yogurt, to serve as the culture. Keep this mixture at a temperature between 90 and 110 for five hours. Then chill the yogurt in order to make it firmer." Because of its simplicity, I did not write down the recipe but assumed that I could remember it. I tried the recipe about 10 days later. I added 1/4 cup of plain Dannon yogurt to a half-gallon of milk. Then I put the mixture in our oven at 110° and made a mental note as to when five hours would be up. I checked the mixture four or five times during the five hour period. I noted some thickening in the beginning but it did not get past a soupy consistency even after it had been in the oven for five hours. Unsure as to whether it was progressing properly, but wishing to follow the directions and impatient for the yogurt to be finished, I took the bowl out of the oven and put it in the refrigerator thinking that perhaps it would firm when chilled. I checked it in the refrigerator once after two

hours and again after four and all that had occurred was the chilling of the soupy mixture. Then I decided that something had gone wrong and I tried to think of what it was. I immediately considered the period when I kept the mixture in the oven because I was uncertain about it when I took it out. Perhaps I hadn't given it enough time ... but the recipe said five hours. Aha! Although I had kept the bowl in the oven for five hours, the recipe called for keeping the mixture at 90° to 110° for five hours and the mixture started out quite cold. I added another 1/4 cup of yogurt in case I had killed the first yogurt culture by the temperature changes it went through in the first unsuccessful run. I put the bowl in the oven and left it in for 10 hours (overnight). When I got up the next morning I checked it and the mixture had become yogurt. I took it out of the oven and put it in the refrigerator where it got thicker.

The next day I described the experience to the friend who had also heard the instructions given by the clerk in the health food store. I described my mistake in keeping the mixture in the oven for five hours where the instructions called for keeping the mixture at the high temperature for five hours. I was at her apartment a few days later when she was preparing to make yogurt. She had borrowed a bowl from a neighbor to make the yogurt in because she didn't have any large glass bowls. She took the bowl in her hand and asked me if it would be big enough. I looked at it and estimated that it was only 1/2 the size of the bowl that I had used, and my bowl could hold 1/2 gallon of milk. She looked at me in a puzzled way and told me that the recipe called for a 1/4 cup of yogurt per quart of milk. On hearing this, I stopped for a moment and wondered how mine could have worked since I had not followed those instructions. Aha! I had added the extra 1/4 cup of yogurt in case I had killed the first culture. Evidently I hadn't killed the first culture, and the two portions together were enough to turn the mixture into yogurt the second time around. So in spite of the fact that I had successfully made yogurt, it was only after my friend had corrected my misconception that I knew how to make yogurt.
(p. 42)

<u>Example I: General Description of Situated Structure of Learning</u>

Learning is the aquisition of knowledge concerning, and the actual execution of, as well as the belief in one's ability to execute on one's own, on demand, a progressive step-like procedure which initially involved the clarification through the mediation of others, of ambigously lived through moments on account of lack of knowledge or wrongly posited assumptions.
(p. 46)

As can be seen from the example, the general descriptions aimed at are general in that they do not contain any of the specifics of the naive description. The description is given in general psychological terms which are intended to reveal the essence or structure of the experience described in the naive description. The aim is to leave out the specific content. Still, the approach focusses, in a sense, on the content. The aim is to describe all of the content in an exhaustive way, but in general terms. This means that although the general description is based on the whole of the specific content it does not contain any specific content. This makes the relation between the naive description and the general description one that has to be acertained through the way of doing the analysis, a general method, which will be described below.

A second example of a naive description reflected upon is given in the same presentation (Giorgi, 1978). It concerns a restaurant owner's learning about the relation between him and the waitresses who are working for him (that they are cheating him and why). The difference between the examples is due to the way of collecting data. It also illustrates that the comparison between cases is not part of developing the general descriptions, but that the general descriptions are based on the individual naive descriptions. Comparisons and groupings of the descriptions of structure may be done as a later systematisation of research results. This could include a further analysis and revealing of more general essences common to the experiences grouped together.

Network and artifical coding languages

In L, there is less concern for the delimitation of the phenomena and the field of research as mentioned above. The aim is to develop forms of representation that will be applicable to a great variation in the kind of phenomena described. The aim is to describe the data and the results as combinations of general categories within a system of general forms of representation. L means a turn to linguistics for this general system of forms of representation. The aim is to use these forms to

represent the results of intuitive analyses of data. The turn is not for formal linguistic analyses to constitute the relation between data and the descriptions developed. The meaning of the categories is developed on an empirical basis. The crucial question then concerns whether the forms of representation developed are in correspondence with the empirical content to be represented.

We shall now give an example of the kind of forms of representation aimed at and developed in L. The example is taken from Bliss, Ogborn and Grize (1979). The origin of their proposed method of analysis is in systemic linguistics, which is concerned with description and representation of meaning; with the semantic aspect of language. In L, the linguistic framework of systemic linguistics is adapted and modified for the analysis of research data. The authors give the following model example of the use of this framework.

For the purposes of explanation, suppose that we are trying to analyse the following miniature "model" set of data, consisting of fragments of stories about learning. In practice, the data would be much larger and much more complex.

Model data*

A. "... when I started reading Landau and Lifschits' mechanics - I followed the book - it is a beautiful classic book on mechanics - and things came out so well I felt like kissing the book ..."

B. "... I had a very good essay given back to me; that made me feel very good, because I had spent a long time on it ... for the rest of that term I felt so good I could have tackled anything ..."

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*Extracted and modified from interviews with physics students (Bliss and Ogborn, 1977). (p. 431)

C. "... in practicals we were supposed to be learning soldering ... I got stuck and the supervisor thought it was very funny that there I was making a fool of myself ..."

D. "... I feel bound to go through as many problem sheets as I can, but I just couldn't do it. I found that I couldn't keep up with it and I kept getting very depressed and wouldn't speak to anybody ..."

The kind of description aimed at is a network that represents the essential meaning of many different statements and at the same time the significant differences between the statements and cases within the perspective of the investigation. Each case is represented by a combination of options within the network. The focus is not on the individual cases but on the network. For the model data, the following network was developed.

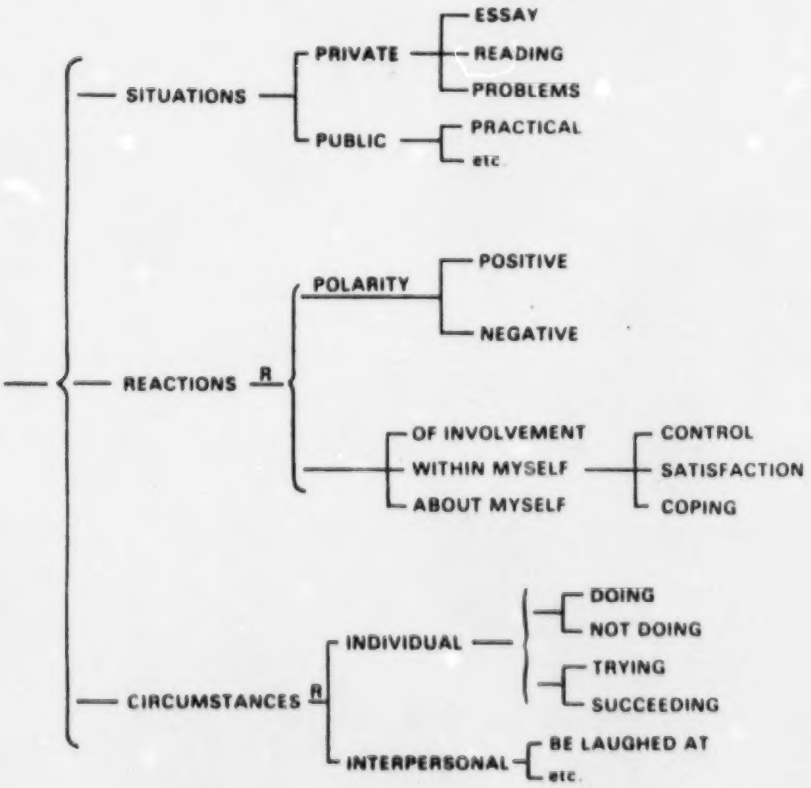

Figure 5. Network to represent the "model" data. (p. 433)

The network is supplemented with a description of the cases in an artificial coding language in which each term not only has its normal range of meaning, but also a fixed and definite meaning assigned by the network. The model data is described in the following way in this artificial coding language.

A ABOUT READING.
I FELT ELATED AND BEAUTY-OF-IDEAS.

B ABOUT ESSAY.
I FELT PLEASED AND ABLE-TO-COPE.
HAVING TRIED AND SUCCEEDED.

C ABOUT PRACTICAL-WORK
I FELT FOOLISH.
HAVING BEEN-LAUGHED-AT.

D ABOUT PROBLEMS.
I FELT DEPRESSED AND NOT-ABLE-TO-COPE.
HAVING TRIED AND NOT SUCCEEDED.
(p. 434)

There is a direct correspondence between this description of each case and the network options. "About", "I felt" and "Having" corresponds to "Situations", "Reactions" and "Circumstances" and the continuations of each line starting with these words correspond to the options for each case within the three main nodes in the network. The idea is to invent rules for relating the network to the data by means of a code which reads like a direct analysis of each item of data. By means of this code, a summary description of each case is given. The code has a dual function. It is both a language which is close to the data and at the same time a formal language with fixed meanings assigned by the network.

As can be seen from this example, the concern for representation is a rather specific one aiming at representing specific items of data from a certain perspective and interpretation. Categories referring to items of data and with meanings gene-

ral across different cases are developed. The individual cases are described as the combination of such categories with generalised meanings. Thus generality is developed for descriptions of rather specific parts of the data. This makes different cases comparable on this specific level, but the assumed correspondence in meaning between cases at the same time presents a problem of justification. The categories provide a basis for comparing and aggregating specific similarities and differences between cases, and also for comparing combinations representing more extensive data about each case.

Differences between the descriptions

The three examples presented above illustrate the differences between the descriptions aimed at and developed in S, P and L. In S, the description concerns two main whole-characteristics of students' conceptions or understandings of a message about the situation at the Swedish universities when it comes to improving effectivity. The first characteristic concerns their conception of the main point of the message. The second related characteristic concerns the organisation of the message as a whole and the main point as a part of this organisation. Both these descriptions are made with reference to the specific meanings of the expressed main points and whole retellings of the message.

If we carry out an intellectual experiment and put other differences between S and P within brackets, we can imagine what a description of the S-case would be like carried out within P. The general essence or structure of the retelling of the message would be described without the specifics. The description would cover the whole of the retelling but in an abstract or general way. The description would presumably tell us that the message was experienced as being constituted by relative frequencies and differences in relative frequencies compared to each other and considered in relation to expectations and conditions and made a basis for suggestions about measures to be taken to change the frequencies (in some of the cases). Thus, we would get the general structure of the retelling of the message given separately for each case and with a minimum of content.

In the P-example, the phenomenon is a case of learning and its structure is generally described. Learning is described as the acquisition of knowledge about and the execution of a procedure. A description in S would have concerned the change in the conception of why yogurt did and did not get firm. The focus would have been on the change from the conception of the temperature to the conception of the concentration of yogurt culture as the important factor. This description of the content of the change would have been supplemented with and included in a description of the organisation of the phenomenon of change, which concerns doing two different things to remedy the situation, attributing the effect to one of the factors and discovering that it was the other.

In several ways, the L-example is situated between the S- and P-examples. It is similar to the S-example in that it concerns data collected from groups of students and that it concerns similarities and differences between students. The descripiton also concerns the specific content of the data. The L-example is similar to the P-example in that it concerns reported experiences and that these concern rather different specific situations. The description also contains the explication of very general structures. The main difference compared to S is that in S the focus is on the delimitation and description of whole-characteristics. Compared to P there is a similar difference in that the reduction aims at describing the essence or structure on the basis of the whole experience.

If we turn the comparison around and ask if the examples given for S and P could be described in L the answer is that may be this could be done. The main problem is that L presupposes a separation of parts. The relations between these have the character of combinations and the meanings of the relations are implicit. In S and P, on the other hand, the relations are focussed on and made explicit but in two different ways. As the use of general categories for rather specific parts of the data and the description of cases by combining such categories seems to be the very point of L, there is a fundamental difference. This difference is especially clear if one consi-

ders the way of treating the data. A comparison of the ways of carrying out the analyses will also bring out the difference between S and P more clearly.

THE ANALYSES

In the preceeding section we have described what kind of descriptions that are developed within the three approaches. In this section, we shall comment further on the treatment of data using the same examples as above. Within the three approaches, the methods are given somewhat different roles. In S, the methodology concerns the kind of treatment of data and not the procedure. The more specific methods and techniques are not prescribed, but are expected to vary and to be evaluated on the basis of the specific results attained. In P, the procedure is more specified and the methods are seen as a guarantee of the proper results. In L, the main restriction on the methods is that they shall produce the kind of representation of the data intended. In all there approaches the analysis starts with the data being read. However, there are differences in the way of reading the data and in the further treatment of the data.

Contextual analysis

In S, the data material is first read for a whole group of cases in order to obtain a general overview of the material. The material is also read to find out what seem to be significant parts of the data and what seem to be the main aspects in which there are differences between cases. Significant parts and aspects are delimited on the basis of the theme or perspective of the investigation. In the earlier example used, the theme is given through the question refering to the text as a whole. The perspective adopted in the analysis is that of discovering how the students have understood the author's message as a whole. This is specified to two related themes: the conception of the main point of the article as expressed in the relatings and the organisation of the message as a whole and the main point as a part of this organisation. We shall now exemp-

lify what this means in terms of the treatment of data by presenting one retelling belonging to the category "Differential measures" described above (p. 11).

A retelling

E: Well, then, perhaps you can tell me about what you have read?

S: Mm. It was a newspaper article which attacked the traditional way of viewing how the distribution of the examination pass rates has been and the traditional way has been that at the free faculties the examination pass rate has been considerably lower than at the plytechnic institutes and other more strictly regulated study lines and this result has been arrived at as a result of a study made. And now they want to use this to try and see instead wether the influence of the environment can be of any importance and how long afterwards people continue their education when they have finished upper secondary school and other basic education. The material has been divided into three different points. The first consists of those people who have continued directly after upper secondary school and then there are those who have worked in a profession and then there are the older people, people who have continued to study to satisfy their own needs, sort of their own desire to acquire more knowledge.

And then they have taken, ... They've also looked at their grades which they had when they had finished at upper secondary school. And then they've looked at where they live and what faculties and what they've studied, the liberal arts or the natural sciences, and among the arts students they have also included the students studying the social sciences, and in this latest study, then, where they've sort of moved away from the old way, they've found that undergraduates at Lund and Uppsala have a considerably higher examination pass rate than undergraduates at the big city universities in Stockholm and Gothenburg.

And it is highest in the natural sciences, among the male natural science students in Uppsala and Lund who have higher grades than AB, I think it was something like 97%, and it's the lowest among, I mean that it's those who have continued directly after having completed their basic education. It was lowest among the female arts students in the big city areas. And then they wanted to point out that there is a connection here between the environment as well as, they feel that there ought to be a connection between natural science, the larger group solidarity that exists there since they have considerably more laboratory work and because they

> come into better contact with each other there than in the liberal arts subjects were they, sort of, have lectures and don't get to know each other more closely, this would, as it were, affect everything. They have a greater sense of community. And they've obtained results which they think are extremely objectionable, when it's a matter of using this UKAS, which decides, which wants a time-limit on studies and things to be the same everywhere. Instead, they feel that one should show local consideration and personal consideration, then, for the different individuals.

A first differentiation between significant parts and non-significant parts can be made in terms of whether the student is talking about the article and what the article is about or something else. In the present case, the student is talking about the article or what the article refers to all the time. In the analysis, the referential meaning of different parts forms the basis for the differentiation. In the first part of the retelling, the main reference is to the article. The student relates what the article is about. In doing so, she refers to the earlier way of conceptualising differences in examination pass rates and says that the article critizes this conception. She then says that this criticism is based on an investigation and thereafter describes the character of this investigation. This introductory first half of the retelling thus contains a reference to the article, discussing the article; this includes a reference to an earlier conception of pass rates and is followed by a reference to the investigation made by the author and to what the investigation was about.

The first half of the retelling represents a background to the second part where the reference is to the situation at the universities as revealed by the investigation and finally a suggestion about what to do about it. The first half places the message in its context. This part has not constituted the basis for describing the student's conception of the message. The description has been based on her description of differences in pass rates (also present in the introductory half), the conditions for these differences and her ideas about measures. The second half of the retelling consists entirely of this kind of description. What is common to these parts, which are deli-

mited as significant, is that they all refer to the situation at the universities and what to do about it. It can be further specified that the basis for the categorisation is the statements about the differences in pass rates and the statements about measures and their interrelation. The statements about the conditions for, the causes of, or reasons for, the differences are not central for the categorisation. Thus, the significant parts are not those referring to the situation at the universities generally but those referring to differences in pass rates and ideas about measures. These parts represent less than half of the retelling in the present case.

The first categorisation concerning the conception of the main point gives a description in terms of whether an idea, and what idea, about the measures is expressed or whether only differences are given as the main point (together with conditions). The second categorisation completes the description by giving the whole relation between the two kinds of significant parts, the differences and the ideas about measures. The first description gives the most significant content of the relation in each case and the second describes the fundamental nature of the whole relation in each case. The significant parts of the retellings, delimited in the way described, clearly form a part of the wider context of the whole retelling and the interview situation. This should be considered when using the descriptions developed. Also, other delimitations of significant parts could, of course, be made for other purposes. What has been illustrated here is that in this approach significant parts of the data are delimited and that this is done on the basis of the referential meaning of the data. Also, the descriptions are based on and refer to these significant parts of the data, leaving other parts as background or context.

It is with respect to the ideas about measures that we find the most clear qualitative differences between the students and it is this that is the reason for these statements becoming the focussed ones. When it comes to the arguments for the measures then different differences are mentioned and left out by different students. Furthermore, it does not matter which specific

differences in pass rates that are refered to, when it comes to the meaning of the general relation between the differences in pass rates and the ideas about measures only that the pass rates were high (and satisfactory) for some groups and low (and unsatisfactory) for others. Thus, the categorisation describes the most important qualitative differences in the conceptions of the message of the article.

Phenomenological and eidetic reduction

In P, there are four or five distinct steps in the analysis. The first step is an exploration of the whole naive description by reading it enough times to develop a sense of the whole statement. The second step is to read through the text with the specific aim of distinguishing "meaning units". This distinction is made from a psychological perspective and in our present case within the set that the text gives an example of learning. The perspective and set are general and the essence or structure of learning has to be discovered within this general perspective and set. The third step is a transformation of each "meaning unit" from a description close to the subject's language to a description using general psychological categories. We shall now give the second and third steps of the analysis of the previously presented naive descripition (p. 14) as those steps are described by Giorgi (1978).

Example .: Qualitative Analysis

Descriminated meaning units expressed as much as possible in S's language based upon perspective that description was an example of learning.	Descriminated meaning units expressed more directly in psychological language and with respect to relevancy for the phenomenon of learning.
1. In health food store, S and friend get recipe for yogurt.	1. S gets instructions (she desires) from "expert other".
2. S remembers recipe as 1/2 gallon milk and 1/4 cup yofurt - keep mixture at 90^{o}-110^{o} for 5 hours - chill to make firmer.	2. Instructions consist of step-procedures wherein subsequent phases presuppose correctness of earlier phases. Three essential steps are given.

3. Because of recipe's simplicity, S assumed she could remember recipe - tried it 10 days later	3. Instructions seem simple to S; therefore she committed them to memory and attempted to execute procedure 10 days later.
4. S adds 1/4 cup to 1/2 gallon milk - put in oven at 110° - made mental note for end of 5 hours.	4. S beginns to follow procedure and executes first step, and proceeds to second step.
5. S checks mixture occasionally, but does not get past soupy mixture - even after 5 hours.	5. Second step of process does not meet S's expectations.
6. S impatient and unsure - therefore decided on next step - mixture only chilled but did not thicken.	6. Second step still does not meet S's expectations, S then moves on to 3rd step hoping that it may come out correctly anyway.
7. S decides something is wrong.	7. Third step of process seems not to help, thus S continues to have doubts about correctness of procedure and decides that there is an "error somewhere".
8. S searches for possible error: distinguishes between 5 hours in oven and 5 hours heating at 90°-110° plus notes fact that mixture started cold.	8. Reflection on procedures uncovers "a lived ambiguity" - S now realizes a crucial distinction where previously she assumed a univocal meaning. S specifically aims for more fitting interpretation ("high temperature" for 5 hours rather than merely "in oven" 5 hours) in procedure.
9. S adds another 1/4 cup of yofurt in case old culture died and puts mixture in oven for 10 hours.	9. Because of error S spontaneously modified procedure "to be sure" and follows clarified second step.
10. Mixture becomes yogurt and then thickened in refrigerator.	10. Process is successful.
11. S describes experiences to same friend who heard recipe the first time with S.	11. S described experience of successful application to the same friend who heard instructions originally with S.
12. S explains error and distinction between oven and high temperature.	12. S communicates error and the clarified meaning that resulted in success to a friend.

13. S at friend's apartment when latter borrowed bowl to make yogurt with same recipe and asked S about adequacy of bowl's size.	13. S with friend when latter is about to execute same instructions and asks S's judgement about what appears to be a simple procedural matter.
14. S said it was only 1/2 her size that held 1/2 gallon milk - friend said recipe called for quart of milk - S then puzzled at success.	14. Through friend's question S discovers a second error in her procedure and that makes her ponder the reason for her success.
15. S remembers that she added extra 1/4 cup as correction.	15. Reflection shows that spontaneously modified step (second 1/4 cup) based upon wrong assumption, was precisely right for reason that only now becomes apparent.
16. S then convinced she knows how to make yogurt as opposed to making yogurt successfully.	16. Therefore S knows she executed procedure successfully and why - ie she learned.

As can be seen from this example the biggest change made within the first three steps of the analysis in relation to the preceeding steps and the reading of the naive description is made through the transformation in step three. Every unit here is described in a more general way, substituting more general concepts for more specific ones. To get a recipe for yogurt is described as a matter of getting instructions, the prescribed mixture of given quantities of milk and yogurt and the heating and chilling of the mixture become step-procedures wherein subsequent phases presuppose the correctness of earlier phases, and so on. On the basis of this unit for unit transformation done within the set of giving a general description of a case of learning, one or two summary descriptions of structure are developed. The most general of these two kinds of descriptions was presented above (p.22). Here we present the more specific one.

Example I: Specific Description of Situated Structure of Learning

A learning situation begins when S, attempting to follow a procedure involving steps never before carried out by her, discovers that the execution of the steps does not meet her expectations. S decides, therefore, that an error was made and reflection on her procedure shows that the

> second step, apparently clear, involved a "lived ambiguity". Her reflection distinguishes two meanings of the lived ambiguity and proceeding according to what S believed to be clarified; proper interpretation of the second step enables S to achieve her intention. Later dialog with a significant other presents S with another ambigous situation when S discovers an implicit error in her procedure, but also with successful achievement. However, a second reflection shows S that a correctional procedure she introduces to rectify the first error was dependent on an assumption that was erroneous, but was precisely adequate to counteract the error in her procedure. Thus, learning for S was the achievement of a successful application of the procedure and the knowledge gained through the clarification of the ambiguities assures S thet she could perform the procedure on demand.
> (p. 45)

This description is more extensive compared to the general description of structure. It follows the sequence of the "meaning units" and the actual experience. The specific description may be seen as a step in between the transformation of "meaning units" and the general description and/or as a means to clarify the relation. Both descriptions are given in the same kind of general psychological language. The specific description of structure describes the experience of learning as a progressing event while the general description of structure describes the structural characteristics of this event rather than the event per se.

Construction of networks

In L, the analysis starts with a question concerning the relation between students' reactions and the circumstances in which the reactions arise. In relation to the research question, it is assumed that the empirical data can be accounted for by using three general categories: situations, reactions and circumstances. These categories present a starting-point for the analysis of the empirical data, which have to be described as combinations of more specific categories within the three main categories. For this reason, the network presented above (p. 18) begins on the left with the three main categories. The rest of the network is constructed in the form of guesses or hypotheses concerning what will be options within these categories specific enough to account for individual items of data

and general enough to apply to many items of data. Decisions have to be made concerning how delicately to distinguish between different items of data by further splitting the options. These decisions depend on the variety represented by the data and the importance assigned to the distinctions that could be made.

Hypotheses or guesses in the form of sketches of a network are checked against the data. Each item of data should correspond well enough with one network combination or pattern (paradigm). This also implies that the whole data material could be divided into items corresponding to network combinations. Questions about whether the items of data represented by the same options are really to be considered the same or not, have to be answered as well as questions about whether the different options really describe the differences between the items of data.

This problem can be illustrated in relation to the model data presented earlier (p. 17) by comparing the two first cases, A and B, concerning the description of reactions. The aim of the analysis was to describe the students reactions to study situations. The reactions described in A and B were given the following fixed meanings in the network within the main category of reactions.

A: Positive satisfaction and positive involvement.
B: Positive satisfaction and positive coping.

The combination of options in the network corresponds to the following description in the artificial coding language.

A: I felt elated and beauty-of-ideas.
B: I felt pleased and able-to-cope.

Questions then to be asked are if it is satisfactory to give "elated" and "pleased" the same meaning of "positive satisfaction" and if the difference between "involvement" and "coping" in the network is enough to distinguish between "beauty of ideas" and "able to cope". These questions have to be answered in relation to the meaning of the corresponding data in the two cases.

The codings in the network and in the artificial coding language are codings of the following parts of the descriptions given by the students.

> A: -and things came out so well I felt like kissing the book ...
>
> B: ... that made me feel very good ... for the rest of the term I felt so good I could have tackled anything ...

The code "positive satisfaction" seems to refer to very different experiences in the two cases, the experiences of feeling like kissing a book and feeling like one could have tackled anything. This difference in meaning also illustrates the difficulty of separating the meaning of the reaction from the situation and the circumstances. In the second case, the situation is that of having written a very good essay. It is a general problem in developing the network to delimit the options in a way that as far as possible does justice to the meaning of different items of data as they exist in contexts of larger units of data. As the analysis proceeds, these questions are given their specific answers. It is the dual property of being at once a descriptive language which is rather close to the data and a formal language with fixed and definite terms and meanings, which is seen as making the artificial language code and the associated network useful in handling large bodies of qualitative data.

Differences between the analyses

There are big differences between the three ways of doing the analyses. The most apparent differences concern the procedural aspects of the analyses. In S, there is no clear general procedure. What is general is that the starting-point is taken in the data and that the treatment of data involves differentiation and organization of parts and selection of significant parts. In P, on the other hand, there is an emphasis on the procedure. In L, there is also an emphasis on procedure but not as strong as in P. In contrast to S and P, the procedure is clearly deductive. However, the procedure, although it may be the most visible

characteristic of the analyses, is not all there is or what is most important. There is another sense in which the analyses represent important differences. It concerns the relation created between the data and the descriptions developed.

In all three approaches, there is a delimitation of the data collected which implies assumptions about the phenomena studied. In S, the further basis for the analysis is that different parts of data may refer to different phenomena or aspects of a phenomenon and that a differentiation of parts may be made on the basis of an interpretation of data concerning their referential meaning. It is further assumed that certain such differentiated units may be focussed on and further analysed and described as to their whole-characteristics. It is considered fundamental to base the delimitation of these parts not on the sequence of the data but on the content of their referential meaning. The content and form of the units/wholes are considered together, which makes the organisation of content central in the description.

The descriptions of organised content are developed by means of a discovery based on comparisons between cases and general knowledge about the content and principles of organisation. In the example used here, the knowledge concerns universities, groups of students, examination pass rates and so on, enough to understand the individual statements given, i.e. the same knowledge that is needed when reading the text. The second kind of knowledge concerns the forms, sturctures or principles of organisation.

In the present case, we have the differences between Selective measures, Differential measures, Measures and Differences (no measures). The discovery of these differences presumes a general understanding of the different nature of the relation (missing relation) between differences in pass rates and measures in these different cases. This general understanding does not constitute any special theoretical knowledge used as a starting-point in the analysis but general knowledge drawn upon when it is discovered to be relevant on the basis of the interpretation

of the data and as a part of the data. The same is the case with the organising principle of arguments-conclusion. The knowledge of this principle and other similar principles of organisation is a general one, but it is discovered as a part of the data. Thus, in S there is very little specific dependence on theory in the analysis and much dependence on the data and common sense knowledge on the level of the data.

In P, the procedure is prescribed and stepwise which also means that the steps in the analysis are made explicit. The nature of the procedure is intended to guarantee a total account of the data. This is accomplished by differentiating meaning units and transforming all the units into a general description. The descriptions of structure are then based on all the transformed units. The transformation presupposes the existence or creation of a psychological language, into which the intuitively experienced meanings of the "meaning units" are transformed. The intention is to give a description of the whole of the experience to be described, but in a reduced form representing the essence or structure of the experience.

The reduction has the form of a transition from everyday language to psychological language. However, the delimitation of the psychological language used is not clear at the outset but is a part of the transformation. Thus, the reduction represents a step-wise procedure through which the data are transformed into a psychological language. The generalization achieved through this transformation and through the creation of the psychological language is seen as based on eidetic intuition. The essences arrived at are seen as theoretically neutral, i.e. not dependent on any specific theory about the phenomena described.

In L, the hypothetical-deductive procedure would be expected to mean an extensive dependence on theory or on general assumptions. This also seems to be the case. The broad categories started from in the analysis are assumed to be relevant on the basis of the conception of the research question and not on the basis of any analysis of the research data. The following testing of the correspondence of the description to the data is re-

stricted to the variation within these categories already assumed. The development of options within the three main categories are made dependent upon the variation in a rather extensive empirical material. This dependence has the form of comparisons and analyses of similarities and differences between specific items of data. However, also this part of the analysis includes a dependence on general assumptions concerning the significance of different possible options or terms that might be used in the code.

The use of a coding system to represent data means a transformation of data. In L, the transformation concerns individual items of data. This transformation presupposes the existence or development of a code which is different to the ordinary language in which data are given. This relation between the two languages implies that the assumptions built into the construction of the code will influence the interpretation of the data and this is also the reason for developing such a language. Thus, the use of a code always means a theory dependence in the sense of a dependence on the assumptions built into the code. In the present case, the dependence on general assumptions is strengthened by the deductive way of developing the network. The most fundamental need for general assumptions in the analysis concerns the encoding of individual items of data and the basis for separating the data and transforming them into general categories.

MAIN DIFFERENCES BETWEEN THE THREE APPROACHES

In this report, some general characteristics of three approaches to descriptive research within the human sciences have been described. They have been described as representing three different "turns" in finding a basis for answering methodological questions. The "turns" also mean some differences in the commitments of the research. The specific cases of research represent associated differences in the delimitation of fields of research and phenomena to be investigated, which are also reflected in the designs and the ways of collecting data. These different aspects of the research were described as a background

to comparing the kinds of descriptions developed and the kinds of analysis used to develop the descriptions as the two main concerns of the report.

The differences concerning kind of description are clearly related to the different "turns" and commitments and also to the differences in delimitation of phenomena and data collection. There are two main interrelated differences between the categories of description in S and the descriptions of structure in P. The first concerns the content of the descriptions and the second the assumed or expected generality of the descriptions. In S, the descriptions concern the content of the whole-characteristics of the phenomena (conceptions). In P, the descriptions concern the sturcture of the phenomena (experiences) with no specific content.

The difference in the content of the descriptions is related to a difference in the treatment of the problem of generalisation. In S, there is an emphasis on the general (and the structural) as it appears in the specific cases. There is a concern for differences in the meaning of general structures depending on differences in the contents of which they form parts. In P, there is an emphasis on the general structure as general and on finding the truly general structure. Thus, the most fundamental difference behind the different descriptions seems to concern the belief in the significance of general structural characteristics or the conception of what is the more crucial problem: to find general structural characteristics (P) or to find the characteristics of structure and content together (S).

In both S and P, the descriptions concern whole-characteristics of a delimited phenomenon. The main difference in the nature of the descriptions compared to L concerns this focus on the whole of the individual case. In L, the concern is for a more general system of representation, a network, which is general across all cases studied. This network is made possible through a representatoin of specific parts of the data and the phenomena in the form of categories given a fixed general meaning. The emphasis is on generalisation in the form of generalized descriptions of specific items of data and combinations of such descriptions.

Thus, the three approaches represent three different ways of dealing with content; S describes the content of whole-characteristics, P describes the structure of the whole content and L describes the general meaning of specific contents and constructs a general system of combinations of such general meanings. These kinds of descriptions imply three different kinds of generalisation. In S, the generalisations concern the relation between the form (structure) and content of whole phenomena; in P, the generalisations concern the structure of whole phenomena and in L, the generalisations concern the similarity in the meaning of specific parts of phenomena.

There are also some main differences in the ways of carrying out the analyses which are related to the differences between the descriptions. The contextual analysis in S is analytic in the sense that the main focus is on differentiating parts of the data. One differentiation concerns the delimitation of the phenomena to be described. Another differentiation concerns significant parts of the data representing fundamental whole-characteristics of the phenomena. In differentiating significant parts of the data, comparisons between cases are important. The significant parts make up a whole and this is summarised in a description in the form of a category.

The differentiation and selection of parts of data is based on the referential meaning of the data and the justification for the reduction of data is that the fundamental or important characteristics of the referential meaning are focussed on and described against the background of the toal set of data. The categories of description give the content of the significant referential meaning of data. The content is given in a summarised form. The categories of description both summarise the result of the analysis on the level of data and give this summary in a general form which is a means for generalisation, for developing and testing theoretical hypotheses.

In P, there is also a reduction of the data, but the principle for this is different and it is not analytic as in S. The reduction is achieved through transformation and summary descriptions of trans-

formed data. The transformations are based on the identification of "meaning units". The meaning units are transformed intuitively from having a specific every-day language content to having a general psychological content which corresponds to the every-day language content. The justification for this transformation lies in the relevance of the psycholcgical perspective, the intuitive method and the psychological language used. The transformation gives the basis for a reduction of the extension of the description by giving a description of the structure revealed through the general meaning of the transformed meaning units. Thus, there are two kinds of reductions of the data involved: first, a reduction of the specific every-day language content to its corresponding general psychological meaning and then a reduction of the extension of the description by means of a description of the whole of the transformed meaning units.

In L, the reduction of data is in the form of a code representing specific items of data. This is also a reduction through transformation. The basis for the transformation is an understanding of the specific data (or meaning units) and their general characteristics. The justification is found in the genral applicability of the code to a larger material of data. The description of individual phenomena is reduced through the use of a reducing code and it is made a whole through the combination of terms in the code. Both the relevance of and the level of generality-specificity of the terms/categories are tested against the experienced richness of the data and the intended use of the code.

Thus, the three approaches include different principles of analysis in line with the differences in the descriptions aimed at and developed. The S-analysis is analytic although in an interpretative sense. It differentiates, organises and selects data on the basis of their referential meaning and then it describes the meaning of the differentiated, organised and selected data as representing the essential nature of the phenomena, of the conceptions. The P-analysis transforms the whole of the data material into a theoretical psychological language. The nature of the transformed data provides the basis for describing the structure of the whole phenomenon, of the experience referred to by the original specific data. The L-analysis transforms the specific data into terms in a

code which is expected to be generally applicable to a set of cases. The original specific data are described in terms of combinations of such terms where the meaning of the different terms combined, are shared with all other cases. Thus, the three approaches may be labelled interpretative-analytic (S), interpretative-transformational (P) and interpretative-aggregative (L).

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